

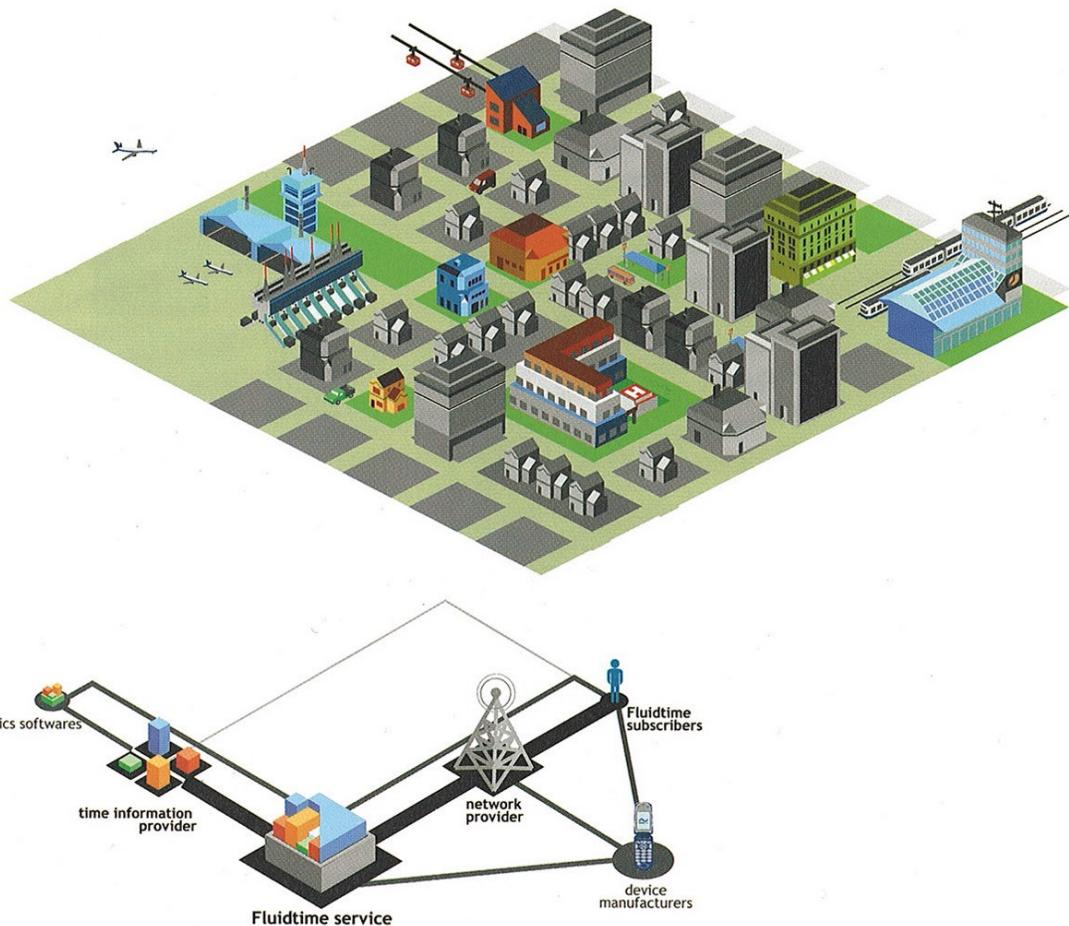


 Interaction Design Institute Ivrea

Press Review

Fluid time

Michael Kieslinger



Fluidtime is a research project being carried out by the Interaction Design Institute in Ivrea, Italy. Its aim is to give people greater control over their personal timetable. Various networks providing information about time are linked together and made available to individuals. Personal time planning need no longer be limited to the clock, but can be adjusted to the availability of services and means of transport.
www.fluidtime.net



The image shows the front cover of a magazine titled "design report". The title is at the top in large, bold, blue letters. Below it is a photograph of a pastoral scene with sheep grazing on a green hillside under a clear blue sky. In the foreground, there are several blue rectangular panels or structures. At the bottom of the cover, the text "Virtuelle Welten" is written in white, and a barcode is located in the bottom right corner.

Wie von Zauberhand bewegt

Haben Touchscreens, Maus und Joystick bald ausgedient? Heute jetzt haben Interface-Designer mit einem aufrregenden Mix aus Realität und Virtualität: Unsichtbare Interfaces und Beugungssensoren vermitteln Befehle, ohne dass der Mensch Computer oder Handy berührt. Der design report stellt einige der coolsten Forschungsprojekte vor.

Titel | Interface design



Technologie wie aus dem Kino: Was Tom Cruise in „Minority Report“ als Zukunftsvision schon vorführte, wird gerade Realität: Seit Jahren schon wird mit dem so genannten „Tracking“ experimentiert, also mit Systemen, über die Computer Bewegung erkennen, inzwischen können sogar multimediale Interfaces durch Laufen und Zeigen bedient werden. Allerdings mangelt es der jeweils von Zauberhand bewegten Technologie noch an Zuverlässigkeit.

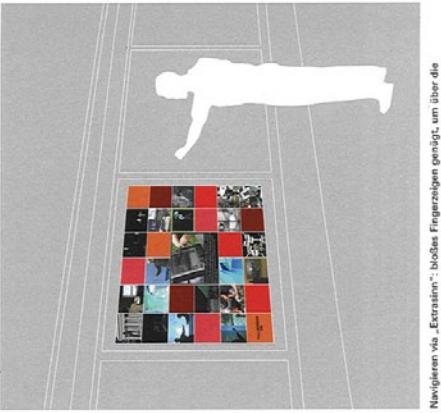
Bis zur Markteinführung unsichtbarer Interfaces fehlt noch zirka ein Jahr“, schätzt der Interfacetechentwickler Wolfgang Strauss. Er ist Kodirektor von MAFS, dem Media-Arts Research Studies Labor des Fraunhofer-Instituts für Medienkommunikation (IMMKM) in St. Augustin. Seit Jahren forscht eine solche interaktive Informationsberfläche hilfreich. Hat der Laden geschlossen oder ist überfüllt, können Interessenten so genau durch das Schaufenster hindurch gewünschte Informationen ganz nach Lust und Laune per Fingerzeig abrufen. Echte Projekte mit industriellen Partnern werden gerade konzipiert.

Über „Extrasinn“ Zugang zur Information

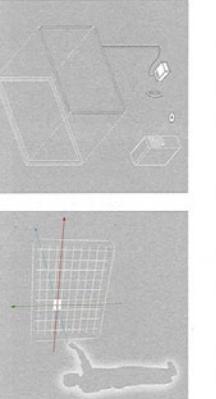
Auf der Cebit interessierte sich „unter anderem die Automobilindustrie für die Point-of-Sale-Technologie. Und ein Verarbeiter chemischer Substanzen fand das System gerade ideal: Auf diese Weise vermeiden die Mitarbeiter den manuellen Kontakt mit verschmutzten Schabotüpfen“, so Strauss.

Über "Extrasinn" Zugang zur

der Computer, ohne konkrete Begründung, dass die Hand etwa auf Feld 19 zeigt, und agiert, als habe man es mit dem Cursor angeklickt; Ob Video, Infotext oder Screenschicht-Technologie. Und ein Verarbeiter chemischer Substanzen fand das System geradezu ideal. Auf diese Weise vermeiden die Mitarbeiter den mühsamen Kontakt mit verschmutzten Schalteroberflächen", so versicherter.



Navigieren via „Ersäumen“ – blickloses Fingerzeigend genügt, um über die „Point Screen“-Informationen abzufragen. Für den Nutzer ist das noch gewohnter und bedarfsgerechter.



Interaktion über „Point Screens“: Das Fraunhofer-Institut für Medienkommunikation experimentiert mit Sensoren, die auf das elektrische Spannungsfeld des Menschen reagieren.

Auch Design- und Stadtplanungsbüros werden fasziniert. Sie überlegen, das interaktive System für Werbeflächen einzusetzen oder als vorne stehende Kommunikationsplattform an Bushaltestellen. Für Wegenetzsysteme durch Städte und komplexe Gebäude bietet sich interaktives Tracking ebenfalls an. Aktuell geht es um die letzte Entwicklungsphase bei MARIS: Man möchte die Computer auf einen Kubizentimeter schrumpfen, Messungenauigkeiten in den Griff bekommen und Point-Screen mit mhschichtigen Multimedienfächern ausprobieren – eine Herausforderung für Interface-Designer. Außerdem benötigt die Technologie feinere Sensoren: Manchen Körper fehlt es an ausreichender Elektrostrahlung. So startete die Telekom in Köln zunächst ein in-

teraktives Schaufenster, bei dem statt des Sensors eine Beobachtungskamera die Bewegung misst. Kleiderfarbe und Lichtverhältnisse allerdings beeinträchtigen eigentlich die Zuverlässigkeit. Für alle zukunftsrichtigen Entwicklungen mit unspurierbaren Interfacciengesprächen: Sie kämpfen derzeit noch mit allen Dingen: Ein Faktor Mensch. Der hat zwar wunderbar gelernt, mit seinen angestauten Sinnen umzugehen. Die neuen Sensor-Systeme aber schenken ihm einen weiteren dazu. „Jetzt stellt man fest, dass es einen Nicht-Berührungsraum gibt“, klärt Strauss auf. Und dessen Benutzung will gelernt sein. Es ist gar nicht so einfach, exakt zu zeigen. Ebenso wie die Überwindung der Benutzerhemmschwelle, mit der schon Inter-

teraktions Schauspieler, bei dem statt des Sensors eine Beobachtungskamera die Bewegung misst. Kleiderfarbe und Lichtverhältnisse allerdings beeinträchtigen eigentlich die Zuverlässigkeit. Für alle zukunftsrichtigen Entwicklungen mit unspurierbaren Interfacciengesprächen: Sie kämpfen derzeit noch mit allen Dingen: Ein Faktor Mensch. Der hat zwar wunderbar gelernt, mit seinen angestauten Sinnen umzugehen. Die neuen Sensor-Systeme aber schenken ihm einen weiteren dazu. „Jetzt stellt man fest, dass es einen Nicht-Berührungsraum gibt“, klärt Strauss auf. Und dessen Benutzung will gelernt sein. Es ist gar nicht so einfach, exakt zu zeigen. Ebenso wie die Überwindung der Benutzerhemmschwelle, mit der schon Inter-

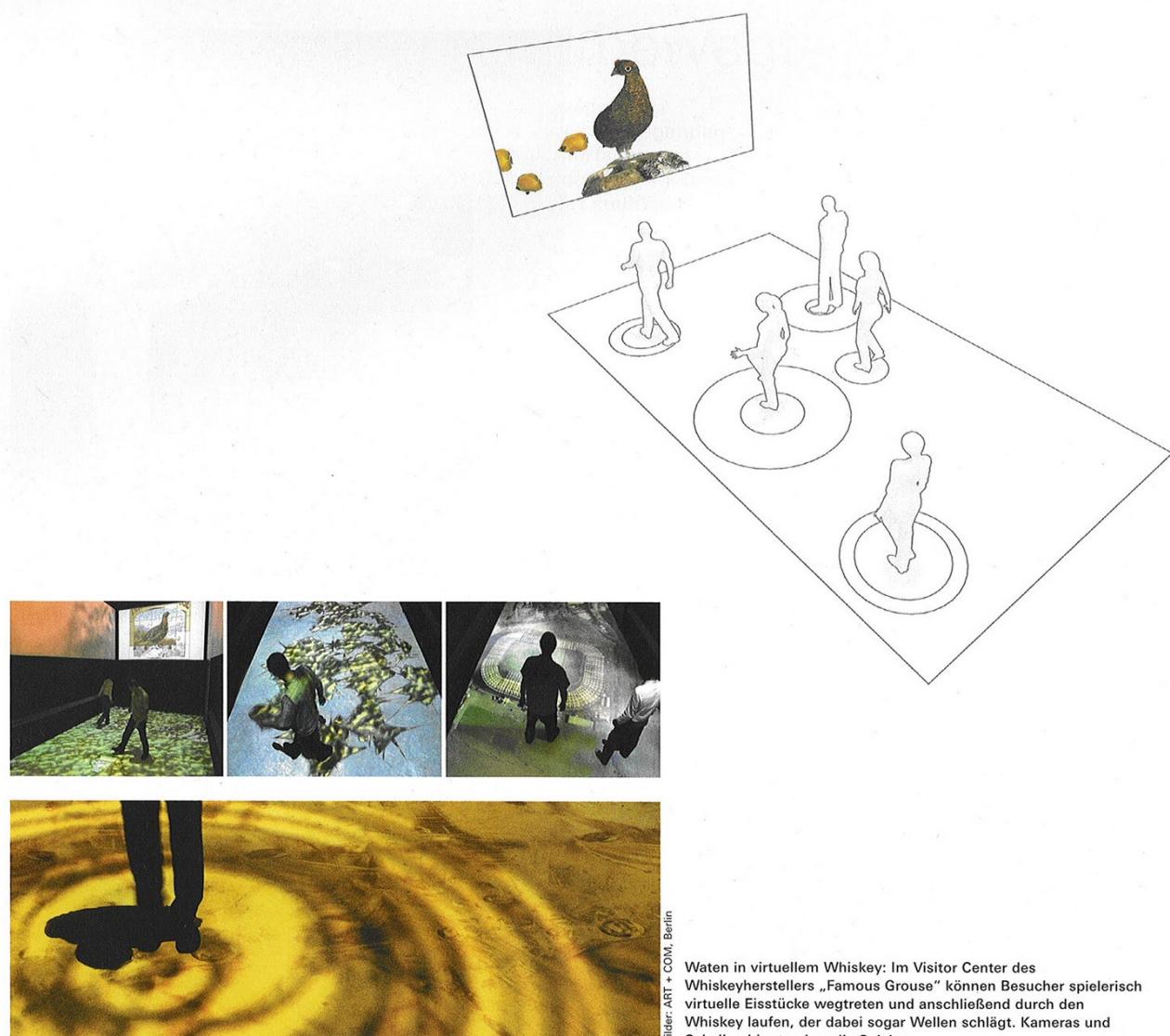
net und Handy zu kämpfen hatten, ist dies lediglich eine Frage der Zeit. Gestaltet man den Lernprozess spielerisch, sind die Angst vor der futuristischen Technologie beim User schnell überwunden. Medienkünstler sind dann Meister.

In der Kunst Grenzen austesten

Bei „Fischemans Café“ einer Arbeit der japanischen Künstler Kaiko Murata, wird ein Kaffeetausstisch von einer darüber angebrachten Kamera beobachtet. Deren Camerawinkel regt strikt die Handbewegungen und reagiert mit visueller Interaktion: Die Luftturbulenzen, die man beispielweise beim Anheben der Kaffeetasse verursacht, werden als Wellenprojektion auf dem Tisch sichtbar gemacht, in denen virtuelle Fische

design report 9/2013

Title Interfacedesign



Waten in virtuellem Whiskey: Im Visitor Center des Whiskyherstellers „Famous Grouse“ können Besucher spielerisch virtuelle Eisstücke wegtreten und anschließend durch den Whiskey laufen, der dabei sogar Wellen schlägt. Kameras und Schallmelder tracken die Spieler.

schwimmen. „Solche Projekte finden im Rahmen der Kunst statt, da sie frei vom Zwang der praktischen Anwendung ist“, erklärt Wolfgang Strauss. „Künstler sind die besten Softwaretester, weil sie die Systeme an ihre Grenzen bringen. Aber Designer überprüfen die Anwendung, indem sie von der gesellschaftlichen Notwendigkeit ausgehen.“ Und so findet man immer wieder kreative Auftragsarbeiten, in denen Designer eine künstlerische Idee für Produkte und Kunden weiterentwickelten.

Eine interaktive Wellenprojektion wie in „Fishermans Cafe“ gibt es beispielsweise im Museum des Whiskyproduzenten „The Famous Grouse“ in Crieff bei Perth/Schottland. Die Agentur ART+COM gestaltete hier einen interaktiven Raum, in dem

die Besucher durch virtuellen Whisky waten – die Bodenprojektion schlägt tatsächlich exakt dort Wellen, wo sich gerade Füße bewegen. Und mehr noch: Im Whiskey schwimmt virtuelles Eis, das man durch Drauftreten oder Wegkicken abfangen soll. Das macht eine Menge Spaß und animiert auch Skeptiker zum Mitmachen. Ein anderes Projekt der Berliner Agentur – die übrigens selbst forscht – agiert mit aktuellsten Ergebnissen der Wissenschaft.

Gemeinsam mit dem Büro Staubach und dem Zentrum für Kunst und Medientechnologie (ZKM) entwickelte man ein Bühnenbild für die Opernbiennale in München, das über Bewegungserkennung funktioniert: Im Computer existiert eine Kopie der Bühne. Der virtuelle und der reale

Raum sind über Tracking-Technologie in Echtzeit verbunden. Kreuzt der Sänger bei seinem Gang über die Bretter bestimmte Punkte, die vorher im Computer definiert wurden, erkennt dieser das und löst die dazu passende Interaktion mit den sechs Projektionsleinwänden aus. Dasselbe geschieht durch Gesten. „Der Schauspieler hat die Macht“, definiert Joachim Sauter, ART+COM-Gründer und Professor für Gestaltung mit digitalen Medien an der Universität der Künste Berlin, den Hintergrund der Idee. „Und es ist nicht zu übersehen, dass man es hier mit Virtualität im kommunikativen Sinn zu tun hat.“

Komplexität mit Klarheit begegnen
Und damit wird auch klar, dass die Arbeit

designreport 9/03



Virtuelle Oper: Im Rahmen der Opernbiennale München wurde 2002 der „Jude von Malta“ aufgeführt. Mit den getrockneten Bewegungen der Schauspieler verändern sich die passgenau projizierten Kostüme und das mediale Bühnenbild. So werden die Schauspieler zu Akteuren im doppelten Sinne.

Bilder: ART + COM, Berlin



des Interface-Designers mit der Gestaltung im Sinne von Farb- und Formwahl oder Oberflächengrafik nur noch untergeordnet zu tun hat. Der Interface-Designer begreift die virtuellen Räume als eigenständige Welt. Die Schnittstelle zwischen Mensch und Maschine, das Wechselspiel zwischen realer und virtueller Welt, hat es ihm in ihrer ganzen heutigen Vielfalt angetan. Deren Möglichkeiten und wissenschaftliche Neuentwicklungen untersucht er und setzt sie in konkrete Projekte für seine Kunden um. Aber, so Sauter: „Wer die Sprache der digitalen Medien, deren Paradigmen, Patterns und Principles nicht kennt, der stammelt und stottert in seinen Arbeiten – wie man das in den letzten Jahren allzu oft gesehen hat.“

Um dem entgegenzuwirken, wurde in Italien vor zwei Jahren das Interaction Design Institute Ivrea gegründet, das Spezialisten aus der ganzen Welt ausbildet. Anfang Juli bekamen die ersten Studenten ihren Master verliehen. Zurzeit wird bei Ivrea zur Interface-Nutzung geforscht, die mehr Zeitfluss und somit Entspannung in den Alltag bringen soll. „Fluidtime“, so der Projektname, ermöglicht dem Benutzer beispielsweise die Feststellung, wie lange er noch auf seinen Bus warten muss. Java-Software auf dem Handy oder einem extra gestalteten Objekt klinkt sich in den Server des Verkehrsdiestes ein und holt permanent und zeitnah Standortinfos über die Buslinie ein. „Wir probieren gerade drei verschiedene Darstellungsformen der Ergebnisse

aus“, erzählt Gillian Crampton Smith, die Direktorin des Ivrea-Instituts. „Statt Wörtern, also einer SMS, nutzen wir visuelle Repräsentation. Der User bekommt eine Grafik übermittelt, auf der sich die Bus-Symbole bewegen. Alternativ wird ihm ein Männchen gezeigt, das, je nach Busnähe, sich entspannt, aufmerksam guckt oder losrennt.“

In einem anderen Segment von „Fluidtime“ ist man bereits beim Machbarkeitstest angekommen: Rund 50 Studenten und Forscher teilen sich bei Ivrea eine Waschmaschine. Die meldet seit neuestem ihren jeweiligen Waschstatus, zum Beispiel an Computer oder Handy. Dadurch wird dem Nutzer eine bessere Koordination seiner Zeit ermöglicht und unnötiges Gerenne in

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Title Interfacedesign



Zeit als wertvoller Rohstoff: Das Projekt „Fluidtime“ des Interaction Design Institute Ivrea in Italien experimentiert mit Interfaces, die dem Nutzer helfen sollen, seine Zeit mehr zu genießen. So demonstriert etwa die Haltung einer schematischen Figur dem Nutzer, in welchem Zustand er sich befinden sollte, um den nächsten Bus zu erwischen. Die virtuelle Waschmaschine zeigt (vor-) bildlich an, wann die Wäsche fertig ist.

die Waschküche vermieden. „Unsere flexible Gesellschaft kann Terminpläne kaum noch einhalten. Solche Monitoring- oder Visualisationssysteme entlasten und helfen uns, entspannter mit der knappen Zeit umzugehen“, sagt Smith und mahnt dann noch an: „Die Herausforderung des Interface-Designers ist die Komplexität von Computer und Telekommunikation – und dass sich das Computing vom Desktop auf die Welt um uns herum verschiebt. Designer sollen dafür sorgen, dass die Bedienung dieser Vielfalt einfach und klar bleibt.“

Vielseitige Möglichkeiten

Auch an der Fachhochschule Augsburg, die sich durch konsequentes Teamwork zwischen Designern und Informatikern aus-

zeichnet, entwickelt man unsichtbare Interfaces in der Kombination mit GPS. Mit „Mobile Experience. Zeichen – Sprechen“ wird die Stadt zum Interface, und zwar zu einem begehbar Hörstück für Touristen. Mit Pocket-PC und Kopfhörern soll der Spaziergang durch Augsburg zu einem interaktiven Abenteuer werden. Je nachdem, an welchem geschichtsträchtigen Ort man gerade vorbeikommt, übermittelt das Gerät den entsprechenden Sound. So hört man plötzlich ein Gespräch zwischen längst verstorbenen Staatsmännern oder das Klavierspiel eines Komponisten aus seinem Geburtshaus. „Die Interface-Designer müssen sich für alles Dramaturgien überlegen: Kommt der Ton von links oder von rechts? Sendet man morgens Verhandlungsgesprä-

che und abends die Geräusche der speisenden Familie?“ erläutert KP Ludwig John, Professor für Multimedia und Gestaltung, das Aufgabenfeld seiner Diplomstudenten. Für ihn liegt die Chance des Interface-Designs in dessen vielseitigen Möglichkeiten, die wir teilweise noch nicht einmal kennen. John: „Auch wenn sich die Industrie im Moment mit Visionen schwer tut: Der Designer der Zukunft wird das Virtuelle mit dem Körperhaften und der Berührung kombinieren.“ Christiane Wettig

www.artcom.de
www.imk.fraunhofer.de
www.interaction-ivrea.it
www.fh-augsburg.de/gestaltung

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Moved as if by Magic

Will the touchscreen, mouse and joystick soon have had their day? Even now, interface designers are already working with an exciting mix of reality and virtuality: invisible interfaces and motion sensors convey orders without the person touching the computer or mobile phone. design report presents some of the latest research projects.

Technology like in a movie: what Tom Cruise presented as a vision of the future in „Minority Report“ is in the process of becoming reality: researchers have been experimenting with so-called „tracking“ for years, i.e. with systems that recognise movement via computers. Meanwhile it is even possible to operate multimedia interfaces by walking and pointing. However the technology, which is moved as if by magic, still lacks the necessary reliability.

„It will take about another year until our invisible interfaces are ready for the market,“ reckons interface developer Wolfgang Strauss. He is co-director of MARS, the Media Arts Research Studies Laboratory of the Fraunhofer Institut für Medienkommunikation (IMK) in St. Augustin. Strauss, together with a team of artists, computer specialists and other scientists, has been on the front line of research into the development of the very latest technologies for years. With some exciting results. The hardware of the Fraunhofer „Point-Screens“ has sensors that perceive the electric field surrounding a human being. If you point to one of the 32 screen



Navigating via “extra sense”: Merely pointing is enough to call up information via the “Point Screen”. This still takes a bit of getting used to for users.



Virtual opera: The “Jew from Malta” was performed in 2002 under the aegis of the Munich Opera Biennial. The perfect fit of the projected costumes and the medial stage setting change with the tracked movements of the actor. Thus the actors become protagonists in the double sense of the meaning.



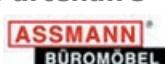
Time as a precious commodity: The “Fluidtime” project from the Interaction Design Institute

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Comme par magie

Interfaces invisibles

Les écrans tactiles, les souris et les joysticks auront-ils bientôt fait leur temps ? Dès aujourd'hui, les designers d'interface travaillent à un passionnant mélange de réalité et de virtualité : des interfaces invisibles et des détecteurs de mouvement transmettent les ordres, sans que la personne ne touche l'ordinateur ou le téléphone portable. Design Report présente quelques-uns des plus récents projets de recherche.

La technologie comme au cinéma : ce dont Tom Cruise présente comme une vision du futur dans „Minority Report“, est en train de devenir réalité : depuis déjà des années, des expériences sont menées sur ce qu'on appelle le „tracking“, c'est à dire des systèmes, grâce auxquels les ordinateurs reconnaissent les mouvements. Des interfaces multimédia peuvent désormais être commandées en marchant ou en montrant. Cette technologie mue comme par magie, manque toutefois de fiabilité. „Il faudra encore environ un an avant que nos interfaces invisibles soient prêtes à être commercialisées“, estime le développeur d'interfaces Wolfgang Strauss. Il est co-directeur de MARS, le laboratoire Media Arts Research Studies du Fraunhofer Institut für Medienkommunikation (IMK) à St. Augustin. Depuis des années, Strauss travaille en équipe avec des artistes, des informaticiens et d'autres scientifiques, sur le front du développement de nouvelles technologies. Avec des résultats des plus excitants. Le logiciel du „Point-Screen“ de Fraunhofer est doté de détecteurs, qui perçoivent le champ électrique d'une personne. Si l'on montre de la main l'un des 32 champs d'écran, ce mouvement est mesuré par le détecteur. L'ordinateur peut ainsi savoir, sans contact concret, que la main montre le champ 19 et agit de la même manière que lorsque l'on clique sur



Naviguer par „extra-sens“ : montrer simplement du doigt suffit pour appeler des informations via le „Point Screen“. L'utilisateur devra cependant prendre le temps de s'y faire.



Opéra virtuel : le „Juif de Malte“ a été joué dans le cadre de la Biennale de l'opéra de Munich, en 2002. Avec la détection des mouvements des acteurs, les costumes projetés et les décors médias changent de façon précise. Les comédiens deviennent alors des acteurs au double sens du terme.



Le temps en tant que matière première précieuse : le projet „Fluidtime“ de l'Interaction Design Institute Ivrea en Italie effectue des expériences avec les interfaces, qui doivent aider les utilisateurs à mieux jouir de leur temps. Ainsi la position d'une figure schématique

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HOME & GARDEN

SUNDAY
OCTOBER 5, 2003

WHAT IF... an occasional feature that explores bold and provocative ideas that aim to improve the way we live in our homes

Wash&Turn is a prototype appliance for apartment-dwellers that connects them with what's happening in the laundry room. Load laundry and Wash&Turn starts to spin. Its lid opens and ribbons pop out when the real washer is done — and is free to unload.

It's about time

Real time ... waiting time ... fluidtime ... and saving yours

Walking Shoes table and Bus-o-rama, designed by Michael Kieslinger (right) and his team, provide live info about your bus. When your shoes start moving, your bus is nearing your stop. And as images of a bus move into view inside Bus-o-rama, you need to hustle.

Photos by Walter Aprile
© Interaction Ivræa

By Karen Klages
Tribune staff reporter

IVREA, Italy — Hustle bustle does not live in this small town of northwest Italy, where much of the populace heads for the "hills" and the "sea" in the summer — actually Lake Sirio, which is a couple miles outside of town and just shy of the Alps. And in the winter, they take to the streets for a wild, weeklong carnival that has them donning historical costumes and throwing oranges at each other from horse-drawn wagons.

And that makes it all the more strange and wonderful that this is home base for a research project whose goal is to re-examine time in the 21st Century — and to give some of it back to us.

Namely: that chunk we spend waiting for the bus, train, doctor, cable TV man, furniture delivery man and even the washing machine to turn off, among myriad other annoying things.

The project is called fluidtime. It's being conducted at the Interaction Design Institute Ivrea, the only institution in the world devoted exclusively to the study of interaction design (*See What's that? Inside*). And it's about the creation of an electronic service that would deliver real-time information to people concerning the ordinary events and appointments of their daily lives.

Like: When Mr. Repairman is *really* going to arrive at your house today, instead of that "between noon and 4 p.m." nonsense. Or when the next bus is *really* going to show up at your stop. Or even, when your 2 p.m. doctor's appointment is *really* going to happen.

The beauty is in the delivery of this breaking news. It would come to us personally — and even joy-

PLEASE SEE WHAT IF, PAGE 8

WHAT IF: ... you knew when your ship came in

CONTINUED FROM PAGE 1

fully — via the screens on our Internet-connected cell phones or wristwatches (which might feature playful images to convey time-critical information) or via specially designed ambient objects for the home.

Consider "Walking Shoes," one of the more ambient, ambient objects developed for this project.

An electric appliance and kinetic object rolled into one, it looks like a small wooden table for holding three pairs of shoes. But when your shoes start tapping atop one of its built-in platforms, that table becomes the voice of fluidtime. The movement — a result of complex technology buried inside the table and out in cyberspace — signals your bus is approaching. The faster your shoes move, the faster you need to move.

Making the most of your time

"Fluidtime doesn't reduce the waiting time. It doesn't make things faster," says a soft-spoken but passionate interaction designer named Michael Kieslinger. He first developed the concept for fluidtime three years ago while working on his master's thesis at the Royal College of Art in London.

But what fluidtime does is give you back that waiting time *beforehand*, so that "you decide how to use this extra time you've got in the most comfortable way," Kieslinger says. "It helps you have flow during the day."

These days, things are flowing nicely for the Austrian-born Kieslinger, 33. He now leads a team of international designers and researchers on refining the fluidtime concept with the hope of seeing it become reality.

Kieslinger is not the only one chasing real-time these days. Around the globe, live-update information is being harnessed to improve efficiency in the business world and quality of life for Average Folks.

The technology involved is not "science fiction," as Kieslinger puts it. It exists and, in many cases, has for years.



This Internet-connected wristwatch (which was jury-rigged by the fluidtime team) features little buses passing time markers in the road to show and tell testers when their bus (and the one after it and the one after that) is set to arrive at their chosen stop.

What's new and what makes real-time real pertinent now is how high-tech companies and other people working in and with high electronics are creatively combining and linking the technology to make inanimate objects and systems — such as buses and washing machines and pallets of merchandise destined for retail stores — able to be tracked at all times.

And with the addition of wireless networks and Internet-connected mobile devices, these objects — given a few computers in between — now can be made to "talk" to the human world and tell us valuable time-based information. Like: when that bus is going to come rolling down our street.

In fact, transit systems have been some of the first and most visible devotees of real-time.

In a number of cities in Europe and Japan, the mass-transit organizations started electronically tracking vehicles years ago and then feeding information to riders about when the next bus or train will arrive via LED screens at their stops.

Throughout the Seattle metropolitan area, commuters can get that information while still at home drinking their morning juice.

The MyBus transit information system (developed by a team of engineers at the University of Washington at Seattle) allows riders to go online via Net-connected cell phones, PDAs or PCs and tap into a refined "prediction" of when the next bus will arrive at their stop.

The prediction uses an algorithm developed by those techy-

engineers that combines schedule database information with real-time data — and has proven to be 99 percent accurate within a two-minute window.

And in a very different application of real-time, IBM Global Services and USA Technologies have Web-enabled some 9,000 washers and dryers for college dormitories in the U.S.

The Web access primarily is meant to allow students to pay for their laundry electronically and to let operators monitor the performance of their machines online. But the technology also lets students visit a Web site from their rooms to find out when a machine is available. And then when their own wash is done spinning, the system tells them so via e-mail, pager or cell phone call.

Fluidtime differs from all this in its sheer ambition.

Kieslinger envisions a real-time service (perhaps we pay for it on a monthly basis from our Internet provider or cell phone service) that encompasses a huge network of information — all of the above and then some. Doctors' offices would feed dynamic schedule information into the fluidtime server. So would courier services, repair services, etc., and even ski resorts, from which Kieslinger would like to get up-to-the-minute information about lift lines. That way, he and his fellow snow enthusiasts could glance at their net-connected wristwatches as they are slaloming down a slope and know which lines are shortest down at the bottom.

Of course, creating such a network would mean a standard

digital language would have to be established. And that gives critics and skeptics of fluidtime plenty of fodder.

"It's like developing a new currency ... to get this standardization," says Chicagoan Joanna Barth, who was recruited to work on the fluidtime team for a few months last year.

Barth, who is back in Chicago and working as a consultant, caught the attention of the folks at Ivrea with her work at the Institute of Design at Illinois Institute of Technology in Chicago. Barth was part of a project that investigated solutions to traffic congestion that focused on information technology and incentive programs, rather than more infrastructure.

No more computer screens!

Although Barth considers the massiveness of the fluidtime concept and, namely, that common protocol, to be its greatest "challenge," she also sees a simple, uncommon beauty in the "aesthetics" of fluidtime.

Kieslinger and his team aren't satisfied with merely bringing live-update information to time-pressed folks. They also want to have fun with this — and for users to have fun.

"If you are bringing this kind of information into the home, the last thing you want to bring is another [computer] screen," says Crispin Jones, a London-based artist and interaction designer who joined the fluidtime team for several months this year. He helped create joyful objects that would interface with people.

Like the Walking Shoes table with sole and soul.

"There was one guy who had it in his office [in Turin]. What he really loved was the acoustic quality. It makes this click-clack noise," says Kieslinger, recounting one of the two test runs that fluidtime made in the real world this spring.

This particular tester took the table to his office and turned it "on" at the end of the workday before he needed immediate information about his bus. He liked the tapping noise of the shoes. It mentally put him into the "rhythm of the bus flow."

Turin (a large Italian city about 35 miles from Ivrea) offered the fluidtime team a perfect testing spot.

The transit authority here recently installed personal computers on its buses and trams to track the position of those vehicles, which transport 20,000 commuters each day. That infor-

mation is then sent via radio signal to the computer at Tu- rin's command control.

For the techno-wizards on the fluidtime team, this was real-time information ready and waiting to be mined. The team set up its own server in Ivrea to tap into that database and fetch bus-specific information for five private citizens/testers.

Each tester got either a net-connected mobile device (a cell phone or a jury-rigged wrist-watch) or ambient object (Walking Shoes) to bring them the information pronto.

Instead of showing straight time data, the screen on the wristwatch (actually a mobile phone with a wristband) displayed images of little buses driving down a road past time markers. Another interface feature was an animated character that told how far a bus was.

Wash time

For a separate trial in Ivrea, where 50 students and teachers tested fluidtime related to their use of a communal washing machine in the basement of the institute, the fluidtime team created an ambient object called Wash&Turn.

A boxlike object that hangs from the wall, it features a middle piece that turns when someone downstairs starts doing her laundry. And when the washing machine turns off, a lid on top of Wash&Turn opens and blue ribbons come popping out.

"Visually, it's really surprising," says Kieslinger, who likewise was surprised at how differently testers used fluidtime.

For one woman in Turin, it "reduced the stress" of missing her bus and gave her the "feeling of being in control."

And for another tester, the devices and objects were what counted most. They were his gadget-toys.

Kieslinger makes it clear that as a researcher, it is not his role to turn fluidtime into a commercial product. Instead, he hopes to inspire interest on the part of product producers as well as other "real companies" that might want to partner with the team in Ivrea.

For now, Kieslinger has posted his project on the Internet (www.fluidtime.net). And he's planning to attend industrial design and interaction design conferences to present fluidtime to anyone who will listen.

Says the futurist: "I want to make people aware that there is this great chance to live time in a different way."

What's that?

A few definitions are in order:

Interaction design: Think industrial design for computer geeks — and you have the essence of interaction design. It's a hot, young discipline that's being added to the curricula of design schools around the globe. The mission of Interaction designers (and their source of endless joy and tinkering) is to create products, systems and environments that interact with the human world in increasingly personal ways. And, yes, all the technology imaginable — and then some — is involved in doing this.

Interaction Design Institute Ivrea: A graduate program and research lab in Ivrea, Italy, approximately 35 miles northeast of Turin. It is the only institution in the world devoted entirely to the study of interaction design — and particularly, on how lovely that rendezvous can be between man and computers.

The institute opened two years ago and is not an accredited school. Instead, it offers post-graduate students the opportunity to explore interaction design, and gives researchers the chance to collaborate on future-concept projects.

Much of its funding comes from Telecom Italia (Italy's phone company), which recently absorbed the Olivetti company, the institute's other major patron.

Ivrea is Olivetti's hometown, which explains why the institute makes its home here and in a former Olivetti research center.

Clever bricks, Flight dream: Two projects that were developed at the institute. Clever bricks are programmable brick walls that respond to human touch or movement in a variety of ways, including turning colors. Clever bricks could be used as a graceful way-finding method for people in nursing homes or hospitals. Flight dream is a wearable, lightweight shawl that simulates the feeling of flying when the wearer moves her arms. Just for the thrill of it.

— Karen Klages

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Inside IT

Clocking off

Jack Schofield
Thursday February 26, 2004
The Guardian

Industrial civilisation is based on accurate time-keeping, and the most efficient workplaces now rely on "just in time" deliveries. The problem is that real life becomes a perpetual struggle to keep on schedule, in spite of late-running trains, accidents, and all the other things that can go wrong. However, given a mobile phone, smart watch or other form of continuous communication, we can move from fixed time to fluidtime, and from rigid schedules to "progressive co-ordination".

"The mobile phone changes fixed times into flows," says Michael Kieslinger. "We're moving away from clock time to a more fluid kind of time."

A common example: two friends agree to meet in the city centre. They could fix a time days or weeks beforehand. Or they could have a general time in mind - around nineish - but change the final time and place several times according to how their days are going. This may well involve making lots of phone calls that begin: "I'm on a train..."

Kieslinger, who was born in Austria, came up with the idea of fluidtime while working on his master's thesis at the Royal College of Art in London. He's continuing his research as an associate professor at the Interaction Design Institute in Ivrea, Italy. Earlier this month, he took part in a joint presentation at the O'Reilly Emerging Technology Conference in San Diego, California.

Micro-coordination is not just for meetings. Kieslinger thinks people should be able to get real time information about everything from the movement of buses to when the communal washing machine is about to finish its next cycle. Both these applications are already in use at the institute. Turin buses radio in their positions to a control centre and Kieslinger's team taps into that, while a Wash&Turn display tells students and teachers what the washing machine is up to. Both Java applets can be downloaded from the Fluidtime website (link below).

Take the idea further and you can imagine fluidtime servers in law courts, GP surgeries, couriers and transportation companies, theatres and many other places, all making information available on the net. Anything of wide interest could be broadcast to portable devices such as the Microsoft Spot (smart personal object technology) watches already on sale in the US.

A universal fluidtime system would not remove all waiting time, but it would reduce the stress that waiting produces. It would also, Kieslinger argues, enable people

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At the moment, for example, delivery firms can propose delivering something to your home between 10am and 6pm, and expect you to wait. In an age when drivers could not be contacted once they left the depot, that might have made sense. Now that a vehicle's position can be identified by GPS satellite positioning, and mobile phones and PCs are common, it's just incompetent.

It is ironic that deliverymen, who are almost certainly using fluidtime concepts to organise their leisure activities, are being forced to provide a much inferior service when they are at work.

Fluidtime website

www.fluidtime.net

Fluidtime: Timing Tools

<http://conferences.oreillynet.com>

O'Reilly presentation slides [PDF]

<http://conferences.oreillynet.com>

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REPORTAGE

De e-culture fair in Amsterdam

Waarom denken we bij computers altijd aan saaie schermen... en aan freaks of wetenschappers? Wordt het niet stilaan tijd dat we websites kunnen ruiken en dat ons lief ons een voelbare kus kan sturen in plaats van een droog SMS'je?

Op de tweearjährige *e-culture fair* in Amsterdam vergaapte onze redacteur zich aan de digitale hersenkronkels van kunstenaars en designers die ons dagelijkse leven met 'spontane' technologie willen verrijken.

De e-culture fair wil aantonen dat het ooit nog goed komt tussen mens en computer, ook zonder handleidingen en cursussen. Het moet andersom, zegt een internationale groep van creatieve geesten die in de hippe Amsterdamse concertzalen Paradiso, Melkweg en de Balie hun vijftig gekste hersenkronkels toonden: van sexy meisjes die op rollerblades het draadloze breedbandsignaal testen, tot interactieve sprookjes met Wi-Fi-bezemstelen. *Interaction Designers*, zo noemt de kunstenaars en designers zichzelf, zijn jong en hip en gebruiken alle bestaande technologie om er systemen en ruimten mee te creëren die vonken doen overslaan tussen de wereld van de mensen en die van de computers. Want reken maar dat we elkaar iets te vertellen hebben... Netwerk ging op ontdekkingstocht en kwam thuis met zes verrassende ideeën!

Wacht even!

De moderne mens moet overal wachten. Bij de dokter, op de bus, in de file en thuis, tot de nieuwe meubels geleverd worden. Interaction Designers in Italië willen je die verlorene tijd teruggeven. Ze werken aan een server die bijvoorbeeld het aan-



Als de bus nadert, worden je schoenen zenuwachtig.



pot of het bierflesje op tafel zet, dan kun je desgewenst nog ingrijpen... via de telefoon dan. Er is ook een RemoteHome-rugzak, vermoedelijk voor de virtuele boterhammen die je 's ochtends voor elkaar hebt gesmeerd.

Project: The RemoteHome (Interactive Institute, Zweden) & Habitat (Media Lab Europe, Ierland)

Websites: www.remotehome.org, www.mle.ie/hc/projects/habitat

Tastbare informatie

Een koekoeksklok die alleen maar 'koekoek' als boodschap heeft, is het niet waard in het Informatie- en Communicatietylperk te leven, toch? Het project *netObjects* stopt realtime info van het internet via Wi-Fi of Bluetooth in gebruiksvoorwerpen bij je thuis. Zo schotelt de *netCuckoo*-koekoeksklok (1) je ieder kwartier verse krantenkoppen voor. De schuifschakelaar is *typically British*: de linkerkant is voor krantenkoppen van een politiek linkse-krantensite,

Het hoeft niet altijd een computer te zijn...



tal minuten kent dat de bus nog van jouw halte verwijderd is. Het ontroerende van het idee is de manier waarop de informatie je in realtime bereikt: aan de hand van *ambient objects*, oftewel vrolijk en antistressgewijs via 'objecten met een doel'. Dat zijn bijvoorbeeld schoenen die je vertellen dat de bus nadert door steeds sneller op een plank te beginnen trappelen.

De Italianen zijn van plan een wereldwijde internetservice op te zetten waar dokters, busmaatschappijen enzovoort hun wachttijden in kunnen stoppen. Tijdens het proefproject in Turijn zei een pendelaar dat de trappelende schoenen op kantoor hem helemaal in het ritme van de stad zogen. Tja, en nu maar hopen dat die Italianen hun gewonnen tijd aan het bushokje niet al pratend weer verliezen...

Project: Fluidtime (Interaction Design Institute Ivrea, Italië)

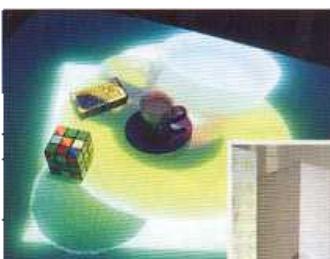
Website: www.fluidtime.net

Internet lat-relatie

Als jij in Berlijn woont en werkt en je lief in Londen, dan kun je hem of haar alleen maar horen of zien via een telefoon of webcam. In het *RemoteHome* daar tegenover kun je je lief ook voelen. Als zij op de sofa in Londen zit, dan kun jij in Berlijn niet op dezelfde plek op de sofa gaan zitten, want er is een bult. Als jij in Berlijn voorbij de muur loopt, dan voelt zij in Londen een licht windje. In de sofa en in de muur zitten namelijk elektromotoren en sensoren die elkaar over het internet aansturen.

Hetzelfde idee, maar dan voor in de keuken, komt uit Ierland. Boven elke keukentafel hangt een projector die in kleur de objecten projecteert die bij

je schat op tafel staan. Op elk object moet je dan wel een elektronische sticker plakken. Dus als je lieveling de choco-



Je lieveling overal dichtbij, in de keuken... en in de woonkamer.





en de rechterkant voor...jewel. Het leuke is dat super-abtracte begrippen plots lekker tastbaar worden en dat je geen computerscherm nodig hebt.

Er zijn nog meer toepassingen: je dates op www.singlesonline.com komen in ticketvorm uit de *netFlirt*-beautycase gerold (2). *NetUmbrella* (3) toont je de weersvoorspellingen van weather-online.com op een minilichtkrant in je parapluostok. *NetGoal* (4) is een voetbal die op en neer springt als er gescoord wordt en *netGossip* (5) is een afluisterbekertje dat informatie voorleest vanaf de website van een celeb-blad. Een geweldig gadget als cadeau bij een abonnement, bedenken we plots...

Project: netObjects (Hector Serrano & Victor Vina, Spanje)
Website: www.netobjects.org.uk

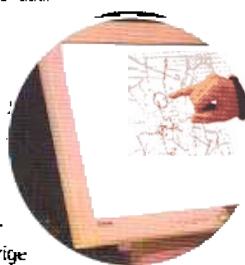


Handtasnetwerk
 Het leven van de gemiddelde *urban dweller* is geen pretje. Toeterende auto's, stinkende uitaatgassen. Je zou er groen of rood van uitslaan en dat is precies wat een handtas uit het *Inside/Outside*-project doet. Zodra het ding

awaai- of geurhinder detecteert, krijgt het een kleurtje. Vervuilingssensoren in gewone modeaccessoires kunnen nuttig zijn, want ze vormen via je zakcomputer een netwerk dat wordt uitgezet op een stadsplan. Zo weet je meteen welke *sacoche* waar in de stad is en of er daar hinder is.

Het Italiaanse *Fashion Victims*-project gaat nog een stapje verder en ontwerpt kleding die ook digitale vervuiling ziet. Als er veel gsm's of Wi-Fi-signalen worden opgevangen, dan verandert jejas van kleur. Enkele bodykunstenaars zien de digitale vervuiling nog dramatischer: zij creëren met de vrijgekomen kleurstof willekeurige tekeningen op hun bovenlijf.

Project: Inside/Outside (Trinity College, Ierland) & Fashion Victims (Interaction Design Institute Ivrea, Italië)
Websites: www.kakirine.com/handbag, <http://people.interaction-ivrea.it/d.agnelli/on/fv>



Er zit muziek in je mouw

Er wordt al veel muziek met een computer gemaakt. Maar geef toe: wat tokkelen met je vingers en staren naar een computerscherm is ook niet alles. Het kan ook met je hele lichaam! Het *Ensemble*-project laat kinderen een spontane performance geven met kledingstukken die voorzien zijn van sensoren. Een hoed met een tiltsensor, een handtasje met lichtsensor, bretels met een expansiesensor enzovoort. Een stapeltje *samples* in een Apple-notebook (keurig weggeborgen in een Oudengels valiesje) interpreteert de signalen van de sensoren, draadloos. Aan de bretels trekken en je hoort geloei. De hoed van je hoofd en je hoort een bij omtsnappen. Het resultaat is een verrassende kakofonie: de kinderen zoeken en vragen zich af of zij het zijn die het geluid maken. De ontwerpster ziet haar kledinginstrumenten dan ook als een educatief project. Er waren nog wel meer sample- en scratch-

projecten op de e-culture fair. Zo kon je een eigen stad bouwen met doorschijnende blokken, waarbij de lichtinval de scratcheffecten bepaalde.

Project: Ensemble (Kristina Andersen, Denemarken) & InstantCity (Sibylle Hauert, Zwitserland)

Website: www.lockergirl.com



Een tweede huid, inclusief de geurtjes

Of je goed voelt in je vel, hangt ook een beetje af van de kleren die je aan hebt. En van hoe die kleren ruiken. Ruiken ze naar vers uit de kast? Of naar de zee na een strandwandeling? *Scientist Beings* ontwerpt intelligente kleding, die met aroma's een emotionele dimensie toevoegen aan de persoon die ze draagt. De Engelse stylist die de *second skin* ontwerpt, laat zich inspireren door het idee dat mode bewijst dat moeder Natuur ons één huid te weinig gaf. Sensoren vormen een extern zenuwstelsel en zorgen ervoor dat je *second skin* zich aan je gevoel van het moment aanpast.



Klinkt wat abstract, maar alleszins vonden we het leuk ook eens aan de modellen op de catwalk te mogen ruiken: kokos voor het betere vakantie-eilandgevoel. De rest herinneren we ons niet meer zo goed... Mmm.

Project: Scientist Beings - Smart Second Skin (College of Art & Design, UK)
Website: www.smartsecondskin.com

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- Diritto e Wireless
- E-Book
- Eventi
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Fluidtime: la tecnologia diventa davvero un servizio

Fornire agli individui informazioni aggiornate e personalizzate sui servizi pubblici e gli appuntamenti privati non è più un sogno



di: Vittorio Pasteris • In YouManTech

E se fosse possibile sapere con precisione quando il vostro medico vi riceverà ed evitare così estenuanti ed inutili attese? Se poteste sapere quando arriva l'idraulico, non dovendo così rimanere bloccati in casa chiedendovi se e quando arriverà? Se potessimo conoscere l'ora esatta in cui determinati eventi avverranno piuttosto che quella prevista secondi i programmi?

Per molti è un sogno che può diventare realtà. Uno dei trenta progetti presentati da docenti e studenti dell'**Interaction Institute di Ivrea** punta a risolvere i problemi legati ad orari non regolari che riflettono il carattere costantemente mutevole della natura dei servizi e degli eventi.

L'Associate Professor **Michael Kieslinger** ritiene che la tecnologia della rete possa essere utilizzata per collegare persone e informazioni in tempo reale, consentendo loro di regolare le proprie attività quotidiane in modo nuovo e flessibile. Michael ed il suo gruppo, hanno sviluppato strumenti e servizi in grado di offrire al pubblico delle informazioni aggiornate, personalizzate ed in tempo riguardo ai servizi pubblici ed agli appuntamenti privati. Invece di fissare un appuntamento in base alle ore, al tempo scandito dall'orologio, gli utenti di Fluidtime potranno fissare i loro appuntamenti in maniera flessibile coordinando i propri impegni con la disponibilità variabile di qualunque servizio stiano cercando. Fluidtime lavora con la natura imprevedibile degli eventi, aggiornando costantemente gli utenti con le ultime informazioni, precise e puntuali relative ai trasporti pubblici, ai servizi di consegne e quelli sanitari.

Fluidtime è un prototipo di servizio di comunicazione su rete cellulare che permette di pianificare in modo flessibile il proprio tempo in funzione di informazioni precise e personalizzate che vengono estratte in tempo reale dai database gestiti dai differenti erogatori di servizi in un dato territorio.

Sono già stati sviluppati due servizi di comunicazione ed i relativi prototipi delle interfacce tecnologiche per mostrare come Fluidtime possa essere semplice, efficace e gradevole nel suo

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utilizzo.

Il primo servizio è mirato agli utenti dei trasporti pubblici di Torino. Il viaggiatore può ottenere informazioni aggiornate mediante dispositivi portatili come telefoni cellulari o orologi da polso; la stessa informazione può essere ottenuta nell'ambiente domestico o in ufficio mediante dispositivi elettromeccanici opportunamente adattati alle abitudini ed allo stile di vita dell'utente.

Il secondo servizio è un sistema sperimentale di prenotazioni personalizzato e flessibile per aiutare gli studenti dell'Interaction Design Institute Ivrea a gestire i servizi di lavanderia; dispositivi mobili e fissi li informano in continuazione sullo stato della lavatrice e gli consentono di programmarne l'uso.

www.interaction-ivrea.it/projects/2002-03/fluidtime/

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ETech: Finding the Right Moment- Fluidtime: Timing Tools for Social Networks

Die Session von Molly Steenson, Professor am Interaction Design Institute Ivrea und Michael Kieslinger war richtig gut. Durch mobile Kommunikation ändert sich der Umgang mit Zeit stark, da immer die Möglichkeit besteht, Verabredungen zu ändern. Oft wird für ein Treffen nur ein grober Zeitrahmen vereinbart, die Kontakt kommt dann über SMS oder Sprache zustande. Fluidtime ermöglicht flexible, progressive Zeitplanungen. Molly und Michael haben die SMS-Kommunikation von Mädchen analysiert, die sich zu einem Treffen verabreden. Aus den Beziehungen, Rollen und "time personalities" ergeben sich typische Szenarien, die in der verwendeten SMS-Kommunikation zu großer Verwirrung und Ineffektivität führen. In einem Modellversuch am Interactive Design Institute wurde die Zeitplanung für die einzige, den Studenten zur Verfügung stehende Waschmaschine mittels Terminplaner, Mobile-Applikation und SMS-Service realisiert. Dabei werden auch die unterschiedlichen time personalities einzelner Studenten berücksichtigt. Social Software.



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Eenzaamheid verdreven via e-culture

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AMSTERDAM - Nooit meer een bus missen en nooit meer stinken als je deodorant op is. Kunstenaars en ontwikkelaars hebben zich verdiept in praktische en sociale problemen en presenteren oplossingen ervoor deze op de E-culture Fair, gisteren en vandaag in Paradiso, De Balie en de Melkweg.

Als de Melkweg om 13.00 uur de kassa openst, staat er al een rij studenten te trappelen om een kaartje te kopen. Nieuwe Media zijn nog lang geen oud nieuws en de studenten zijn benieuwd naar de nieuwe applicaties die hier getoond worden. De installaties en toepassingen zijn behalve kunstwerken veelal ook heel praktisch, meent Virtueel Platform, de organisator van de E-culture Fair.

Heimwee of eenzaamheid bijvoorbeeld wordt opgelost door dertiger Dipak Patel met Habitat, dat tentoongesteld is in de omgeving Mobile Home. Habitat onderzoekt hoe huishoudelijke apparaten kunnen functioneren als een netwerk om de banden te verstevigen tussen familieleden en partners die door afstand gescheiden zijn. Op de e-culture fair worden via een netwerk twee koffietafels verbonden. Wanneer je partner koffie drinkt, wordt dat visueel aangegeven op jouw tafel. Hetzelfde geldt voor sigaretten, boeken en alle andere objecten waar een labelje opgeplakt wordt.

Patel: "Ik miste de 'connectie' die je met iemand hebt als je in het buitenland zit voor werk of studie. En die is niet altijd op te lossen door naar huis te bellen. Connectie, verbondenheid is veel belangrijker. Dat is wat je mist! Daarom heb ik dit ontwikkeld."

Eenzelfde principe geldt voor The RemoteHome van Tobi Schneidler, waar twee huizen via internet met elkaar zijn verbonden. De handelingen van de bewoners van de huizen beïnvloeden elkaar's interieur. Voor de E-Culture Fair heeft Schneidler zijn RemoteHome gesplitst: de een in de Melkweg en de ander in Paradiso. Als in de Melkweg iemand bijvoorbeeld de kamer inloopt, gaat bij de RemoteHome in Paradiso de muur golven.

Een meisje en een jongen laten de installaties van Schneidler en Patel voor wat ze zijn. Zij staan al tijden te spelen in de sectie Toys4Us, waar je met stokken bliksem op het scherm kunt toveren: Harry Potter, maar dan elektronisch. Voor de elektronica-junks is de hele sectie Toys4Us een verademing. Overal mag op geklikt en gedrukt worden.

Marleen Stikker, webceleb en directrice van De Waag buigt zich in The Max over alternatief en creatief gebruik van nieuwe technologieën voor het leren door spelen. Terwijl in de andere zaal men zich vergaat aan de presentaties over mobiele communicatie in publieke ruimtes. Michael Kieslinger presenteert van het Interaction Design Institute Ivrea uit Italië daar zijn FluidTime, oftewel dé oplossing voor het wachten op de bus. Want tijd is kostbaar en wachten op de bus je reinste tijdverspilling, aldus Kieslinger. "Ze zeggen dat technologie alleen maar tijdversnelling veroorzaakt. Maar ons

gaat het om de persoonlijke keuze wat je met je tijd doet." En dus komt Kieslinger met een Watchphone, waarmee aangegeven wordt hoeveel tijd je nog hebt voordat de bus bij de halte is. Met of zonder vertraging want de Watchphone werkt op basis van RealTime en in samenwerking met het plaatselijke openbaar vervoer. Wie niet altijd op zijn Watchphone wil kijken, kan schoenen aansluiten op de applicatie. De schoenen beginnen dan door de technologie op eigen kracht te trappelen en versnellen het ritme wanneer de bus dichter bij de halte komt.

Riksja met gsm

Dat mobiele communicatie niet alleen belangrijk is in de Westerse wereld, bewijst Zeenat Hasan, die haar presentatie begint met een filmpje over de autoriksja's in India. Autoriksjachauffeurs zijn massaal aan de mobieltjes. "Mijn familie weet zo precies waar ik ben. Ook als ik geen benzine meer heb. Voor klanten ben ik beter bereikbaar en collega's kunnen me overal vinden," vertelt een autoriksjachauffeur in de vier minutendurende presentatie. Omdat de chauffeurs van de riksja's hun mobiele telefoon wel eens gratis laten gebruiken door hun klanten, onderzoekt Hasan nu de mogelijkheid om riksja's en mobiele communicatie te combineren. Een soort rijdende mobiele telefooncel, die voor de straatarme riksjabestuurders meer inkomen kan genereren.

In Paradiso laten de designers de westerse en de niet-westerse wereld voor wat die zijn en richten zich op de toekomst van kleding en sieraden. Waarom zou kleding maar een stuk stof zijn om je lichaam te bedekken of warm te houden wanneer deze ook nog eens van alles zou kunnen registreren? De Smart Second Skin van de Britse Jenny Tillotson activeert de neus door geur de drager te informeren over zijn of haar gezondheidstoestand. Ook houdt de Smart Second Skin de transpiratie in de gaten. Als het uit de hand loopt, voorziet de Smart Second Skin je van wat frisse deo. En dat is handig wanneer de Smart Second Skin je je ideale partner aanwijst. Ook een snufje van dit ontwerp. Geloofwaardig? Het publiek is er in elk geval niet weg te slaan.

Dit geldt ook voor de stand van Motorola, dat zijn nieuwste James Bond-snufjes laat presenteren door een gladde Amerikaan. Zo is er de pen die onthoudt wat er geschreven is en de zonnebril met ingebouwde digitale fotocamera. Motorola hoopt de snufjes al in 2005 op de markt te brengen.

Veel prototypes en voorbeelden op de E-culture Fair worden nog door een 'ouderwetse' computer gepresenteerd. Maar de ontwerpen en applicaties zijn geen onuitvoerbare verzinsels. In elk geval het publiek lijkt klaar voor de trappelende schoenen en een jurk die de man van je dromen signaleert.

De E-culture Fair is vandaag nog te bezoeken in De Melkweg, Paradiso en De Balie. Zie www.e-culturefair.nl

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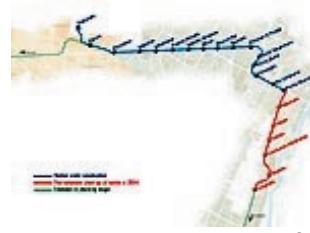
TURIN PUBLIC TRANSPORT, ITALY

Turin, in the north west of Italy, was the country's first capital city. When this status was lost at the turn of the last century to Florence (and then to Rome), the city was forced to find its vocation, which it did in the form of industrialisation. The city centred its economy on industry, mechanics and above all on the automobile. In the mid-70s Fiat was the largest employer in the city and continues to be one of the country's best-known and most powerful corporations. It is not surprising, therefore, that the financial prosperity bestowed on Turin enabled a well-developed, technologically-advanced public transport system. This extensive tramway network, which totals 179km, first started in 1907. Until the 1950s it was the sole public transport system of the city. It still remains an important transportation service, resulting in a current upgrade of tram Line 4 that will extend the network to 195km.

As with all major cities, traffic congestion is a major problem. Even when actively promoting public transport services, vehicles still over-power the stretched road systems. Land in city centres commands such premium prices that car parking land is becoming less and less. However, an ingenious new automated system could change the situation. The late 1990s saw the first commercial installation of the TREVIPARK in Cesena, Italy. The TREVIPARK system solves many of the traditional problems associated with urban parking - congestion, pollution, land space, security - through the installation of compact, circular, underground silos that optimise space, are easily installed, are secure, and are completely automatic. The TREVIPARK is currently being installed throughout Turin.

Because of its relative small size, Turin was unable to follow other European cities and develop an underground metro system as it was not financially viable. It instead chose to build an advanced tramway system, the 'light metro' organised on a grid basis in the main streets of the city. With this, there were plans to make the key routes 'super tram' lines. Tram Line 4, when upgraded and extended, will be the first 'super tram' example. The municipal transport authority, ATM, and Italian company SATTI SpA operate and manage the city's urban and suburban bus, tramway and local railway

[Click To Expand](#)



Map showing route of the new Turin metro.

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Turin Metro train.

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Shield of the tunnel boring machine.

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Automated VAL system operating room.

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networks. Continuing upgrades of the tramway system includes the arrival of new low-floor Cityway rolling stock. Built by Alstom, there are plans to have a fleet of 187 low-floor trams running by 2004. 40 of these trams will be assigned to the upgraded Tram Line 4.

The Turin transport authorities have recently implemented a system that tracks all the buses and trams. An innovative system called Fluidtime taps into this data, making it available to travellers, direct to their mobile phones or wrist watches.

Railways have always been important to Turin; its system is already advanced and there are continuing projects to enhance it further, with seven new stations and new lines planned. A new four-track underground line is under construction, called the Passante, which will link these seven stations with Porta Susa, the future main station of Turin (replacing Porta Nuova). This train line, being constructed by the Italian State Railways (Ferrovia dello Stato - Trenitalia), will be the main airport rail link and is expected to be in operation by 2006 with trains running every five minutes between Dora and Lingotto, and every ten minutes from Dora to Stura.

In 2000, Turin was named as the host of the 2006 Winter Olympics. This event attracts thousands of spectators and as a consequence it was realised that the city public transportation system needed upgrading in order to cope. This major achievement bought the ideas of a metro system to the fore and at the end of 2000 construction started on the first section of the 'Metropolitana Automatica di Torino'.

METROPOLITANO TORINO

Turin's first underground metro line is based on the VAL (automated light vehicle) system adopted in Lille and Toulouse. It starts in the centre of Turin at the current main railway station Porta Nuova, crossing the city centre via Porta Susa railway station and then travelling west to Collegno along Corso Francia. This first section will be 9.6km long and will have 15 stations. It is being constructed by Systra SA and Geodata and completion is expected in 2005 - 2006, in time for the Winter Olympics. The network will run through tunnels constructed at a depth of 15m to 18m below the city.

A second phase will include a 4.5km-long extension of the initial route from Porta Nuova south to Lingotto, all underground with six stations along Via Nizza running parallel to the River Po. It is planned that during rush hours there will be a VAL train every two minutes in each direction. The VAL line will help shape the city, in particular the southern terminus at Lingotto. Here, there is an ever-growing Expo City and the VAL link will provide a fast link to the centre of the Turin.



View of a typical station.

[Click To Expand](#)



Fluidtime real time transport information via a mobile phone.

[Click To Expand](#)



TREVIPARK urban underground car park.

It is expected that a further 3.6km extension will be routed west of Fermi with four new stations. Beyond this, there are already plans for more stations and further line extensions.

In 2001, Geie VAL 208 TORINO (an association of enterprise consisting of Siemens AG, Siemens SpA and Alstom Ferroviaria SpA) ordered 46 VAL-208 metro cars from Siemens-MATRA for the metro. These trainsets are made up of four carriages with a total length of 52m and can carry up to 440 passengers. The network will be able to carry up to 20,000 passengers per direction per hour without any disruption. The trains are equipped with rubber wheels, a feature contributing to higher speeds, lower breaking distances and less vibration than on steel railway lines. Corridors and stations have been designed in accordance to an Architectural Plan prepared by Kohn & Associates, with the aim of rationalising and minimising passages in the inside and exit corridors. All stations will have automatic sliding doors on the platforms, video surveillance and smoke detectors and an intercom system linked to the Command and Control Point (CCP).



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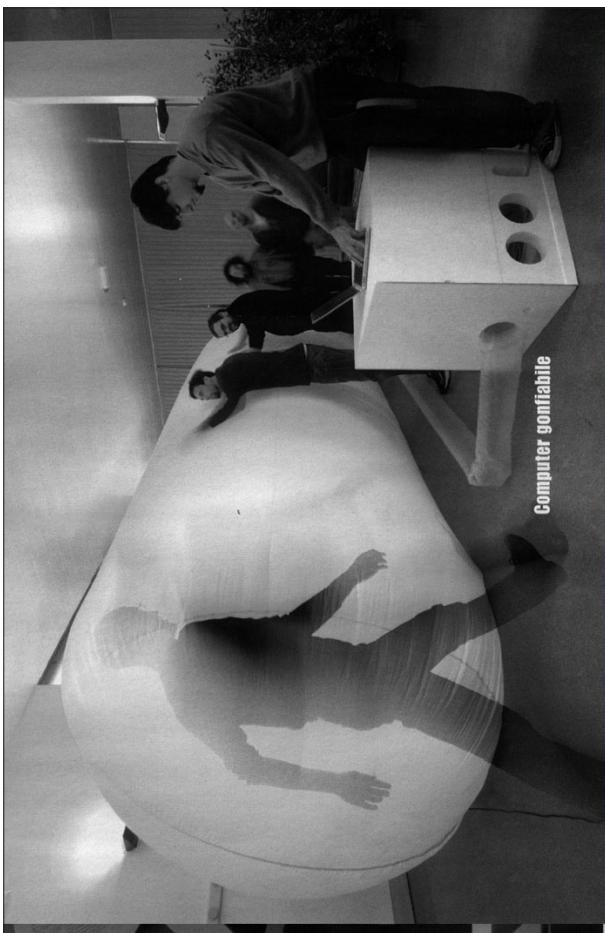
REPORTAGE

Alla scoperta della scuola di Ivrea
dove si impara a creare l'hi-tech.

Ghe cosa significhi "interaction design" ne l'ha spiegato Bill Moggridge, l'uomo che ha inventato sia la disciplina sia il termine che la idea. «È nato tutto nel 1990, quando ho disegnato il primo computer laptop. L'ho portato a casa e l'ho smontato per farci fare ciò che volevo». Da allora, rendere intuitivo l'uso degli oggetti tecnologici è diventato

l'obiettivo dei designer più ambiziosi. E visto che non è una sfida da poco c'è anche chi i nuovi progettisti provano ad addossarli.

Primo italiano. Il bello è che tra università e accademie d'arte americane, inglesi, olandesi e giapponesi, l'unica scuola dedicata esclusivamente all'interaction design dove si trova? A Ivrea (www.interaction-ivrea.it). Qui, nella cittadina piemontese che in passato ha cultuato l'Olivetti, 44 studenti poco più che ventenni, provenienti da 22 diversi Paesi, seguono →



Computer gonfiabile



Telecomando facile

→ no i corsi di un gruppo al trentano internazionale di docenti poco più che trent'anni. Un sogno, ma d'attualmente concreto. Lo capisci non appena vanchi l'ingresso e vedi un nugolo di ragazzi abbozzare progetti sul proprio Mac, costruttoriamente collegato senza fili a Internet. O quando stenditi nel sottosuolo, attrezzato con plexiglas, polistirolo, frose, seghe e altre divovolerie per trasformare qualsiasi disegno in un oggetto a tre dimensioni.

Progetti concreti. Poi parli con ragazzi che si sono diplomati e non hanno dubbi. Sono giovani designer che, dopo due anni di lavoro, possono mostrarti un prototipo, perfettamente funzionante, di ciò che avevano in mente. Perché a nutrire il loro talento non chiamano pensato solo filo-

sofi, psicologi, architetti, ma anche i progettisti di aziende come Fiat e Telecom, che tra l'altro finanziaria interamente l'Istituto nell'ambito del Progetto Italia. Partner che non chiedono nulla in cambio: né opzioni né brevetti.

Chiacchierando, si accorgi anche di cosa sia in concreto l'interaction design, di come possa rendere più semplice ciò che esiste già oppure immaginare ciò di cui avremo presto bisogno. Sergio Paolantonio, per esempio, ha studiato i telecomandi. Ne ha realizzato uno. Ecco, che si concentra sulle funzioni più usate, cambiare canale e regolare il volume, e lo ha dotato di un controllo di movimento: se io ruoto in senso orario alzai il volume e fai

un uovo per la tv

di gestire su cellulari e palmari gli appuntamenti che non dipendono dalla nostra volontà. La prima applicazione: i mezzi pubblici. In questo caso, il suo programma già sperimentato con successo per sei mesi a Torino, mostra sul telefono quando arriveranno alla fermata che ti interessa i primi tre autobus, se per esempio il primo sarà lì tra tre minuti e il



Telecomando facile

Egg, il telecomando tv che permette di regolare il volume e dei zapping semplicemente utilizzando il sensore ottico o antiradio. Sergio Padantonio, che lo ha realizzato, ha creato anche due prototipi pensati anche per telecomandi che possono controllare più apparecchi insieme.

Computer gonfiabile

Gli studenti e i docenti che hanno ideato Cocco, un ambiente portatile composto da un solido dispositivo.

Michael Kieslinger, invece, è uno dei docenti dell'Istituto e ha ideato Fluid Time, un software che permette di gestire su cellulari e palmari gli appuntamenti che non dipendono dalla nostra volontà. La prima applicazione: i mezzi pubblici. In questo caso, il suo

programma già sperimentato con successo per sei mesi a Torino, mostra sul telefono quando arriveranno alla fermata che ti interessa i primi tre autobus, se per esempio il pri-

mo sarà lì tra tre minuti e il

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Finestrino Mms

Gaurav Chaddha (al volante) e Mathias Dahlgren (a sinistra col palmare) con i loro colleghi che li hanno seguiti. Basta scrivere sul finestrino abbassato e uno Scanner trasforma il tutto in un messaggio, che viene conservato nella memoria dell'auto o spedito a un telefonino.

messaggio sul finestrino: verrà immagazzinato e riproposto alle altre persone che saliranno sull'auto. Infine l'oggetto più misterioso: Cicco. In pratica, è un'enorme pallone gonfiabile bianco connesso a un computer. Se ci entri ti sembra di ritrovarsi nel nulla ed è proprio per questo che è stato pensato servire infatti a studiare soluzioni architettoniche "intelligenti" isolandole dagli elementi esterni. Ma il bello è che chiunque ci si infili ne immagina un uso diverso: studio fotografico privo di ombre, stanza per l'aromaterapia, nome cinema avvolgente... Perché il futuro non ha contorni definiti e a volte anche chi per mestiere lo disegna si adatta ai suoi capricci. ■

Federico Bona
ha collaborato Andrea Mastalli

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una tessera personale da inserire all'ingresso. Le luci sono colorate e puoi cambiare schiacciando un pulsante che, tra l'altro, vibra quando devi presentarti a check-in. Così, se sei addormentato, ti sveglia. In più, un sensore di movimento cambia musica a seconda della posizione che assumi. Gaurav e Mathias hanno invece pensato a come potrebbe trasformarsi l'automobile privata, divenne, da bene collettivo. Ecco quintasse.

L'automobile di tutti
Più fantasiosi i progetti di Lene Ulrika Christensen e di Gaurav Chaddha e Mathias Dahlgren. Lene si è concentrata sulla qualità del tempo che, chi viaggia, trascorre in aeroporto, e si è immaginata Re-Lounge, uno spazio in cui rilassarsi lontano da occhi estranei. È una specie di bolide: quando ti accomodi al suo interno, diffondono la tua musica preferita e proietta immagini del luogo che raggiungerai. Informazioni, queste, contente su

successivo tra venticinque spari che c'è caso di affrettarti se non vuoi aspettare quasi mezza ora. Ma l'idea è applicabile anche ad altri servizi soggetti a imprevisti, come l'appuntamento con il caro artigiano. Il medico o qualsiasi altro.

L'automobile di tutti
Più fantasiosi i progetti di Lene Ulrika Christensen e di Gaurav Chaddha e Mathias Dahlgren. Lene si è concentrata sulla qualità del tempo che, chi viaggia, trascorre in aeroporto, e si è immaginata Re-Lounge,

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THE TIMES OF INDIA

Bangalore, Thursday December 11, 2003 www.timesofindia.com Metro 22 pages* Price Rs 3

Futuristic tech designs put user in charge

By Ravi Menon
TIMES NEWS NETWORK

Bangalore: Goodbye, product populism. Tech designers are developing a different way of conceiving and implementing community-centric technologies. Imagine doing a Master of Arts degree on your mobile phone by fetching the coursework at the flick of a finger, with expert comments from the tutor thrown in. The tutor has access to a database describing your learning patterns, even the kind of questions you are likely to ask in future. Who knows, your wife could even find out if you were listening to her when she said the movie you saw last week was boring.

User and community context are foremost on the socio-techie designer's mind. Bold, new projects at the ongoing Doors East 2003 in Bangalore are redefining the service opportunities rooted in user context and

FUTURE SHAKES

- Wanna buy stocks? Just press the button for mean average analyst recommendation, and degree of liquidity 3 months from now!
- Think she is too fat? At least, you can redesign her mobile 'presence'.
- Buy groceries, pay the electricity bill, talk to the boss, surf the Net, help with kid brother's homework, argue with the girlfriend and watch TV, not necessarily in that order.
- Did he give away classified info the moment your back was turned? Know what he said or wrote!

community, for companies to pursue.

Chennai-based n-Logue, which has piloted a WiLL connectivity project on a network of kiosks, has pioneered videoconferencing at creeping 35 Kbps speeds in the Tamil Nadu heartland. "Internet in a rural context is a medium that can carry text, voice and video and the possibilities are immense — online clinics through dedicated conference

servers, 'Web durbars' for farmers with the district commissioner; access to financial products like microcredit and health insurance, education in rural areas through recorded lectures via these kiosks..." elaborates CEO P.G. Ponnappa. Or,

what Philips India's TeleDoc project does with diagnoses via mobile phones through urban doctors who zip their health advice back to the field rep and the rural client.

Take the concept of 'Fluid Time' developed by Michael Kieslinger and his team at Interaction Design Institute Ivrea. The Fluid Time project provides dynamic, personalised

schedule information about public services and private appointments. "Fluid Time has worked towards helping users coordinate their schedules with changing availability of services or events they are placed in. It's very real-time, not rigidly clock-based," Kieslinger says.

Nokia Research Center's 'Moblogging' or mobile blogging model, a clever community-based GPS innovation, enables users in a particular location to view the collective experiences of every other mobile user who occupied the same spot. "It's seeing the past in context, imbued with new meaning in the present day eventscene," says Tokyo-based Nokia researcher Jan Chipchase.

But how far will vision bridge market realities? Will the user supercede the brand some day? For now, tech community events like Doors East are flagbearers of a mutation in progress.

Innovation Project | **Michael Kieslinger** with Joanna Barth, Crispin Jones, Alberto Lagna, William Ngan, Laura Polazzi, Antonio Terreno, and Victor Zambrano. Partners: Miele (Gütersloh, Germany) and Società Consortile 5T (Turin) |

Fluidtime

Time services and tools to help people's flexible lifestyles
Servizi orari e strumenti per favorire uno stile di vita flessibile



Idea/problema/contesto Sia nel lavoro sia nella vita privata si stanno adottando nuove abitudini che riguardano il tempo. I telefoni cellulari, ad esempio, sono sempre più utilizzati per programmare o per modificare gli appuntamenti. Tali strumenti tecnologici potrebbero permetterci di vivere la nostra vita secondo il mito di Kairòs – il dio greco del tempo incentrato sull'evento – invece che in accordo con Crono – il dio del tempo misurato: per fare le cose quando ci va, invece che quando l'orario ci indica che dobbiamo.

Cos'è Fluidtime è un insieme di servizi per favorire uno stile di vita flessibile. Fluidtime collega l'utente a informazioni personalizzate su base oraria circa il servizio richiesto.

Come funziona La piattaforma tecnologica di Fluidtime fornisce informazioni costantemente aggiornate dai database delle organizzazioni di servizi in tempo reale. Attraverso i telefoni cellulari o altri prodotti specificamente progettati, gli utenti possono, ovunque essi siano, collegarsi al sistema e gestire il proprio tempo. L'autobus è in orario? Il dottore è in ritardo o in anticipo con le visite?

Due sistemi di servizi e le loro interfacce sono stati prototipati per mostrare come usare Fluidtime può essere semplice e piacevole. Con il primo, gli utenti dei trasporti pubblici torinesi

possono ricevere informazioni sia attraverso il loro cellulare, sia a casa o in ufficio. Gli utenti possono inoltre regolare le interfacce in modo da seguire gli autobus. Dei prototipi funzionanti sono stati consegnati a sei persone affinché li adoperassero a Torino per un mese.

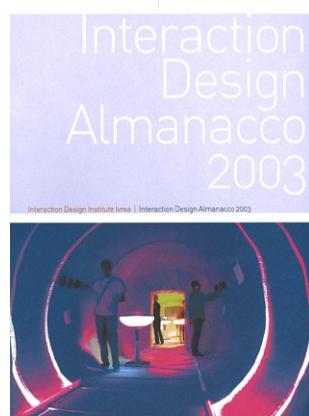
L'altro servizio, implementato per gli studenti dell'Interaction-Ivrea al fine di organizzare l'uso del locale lavanderia, è un sistema di programmazione personalizzato e flessibile.

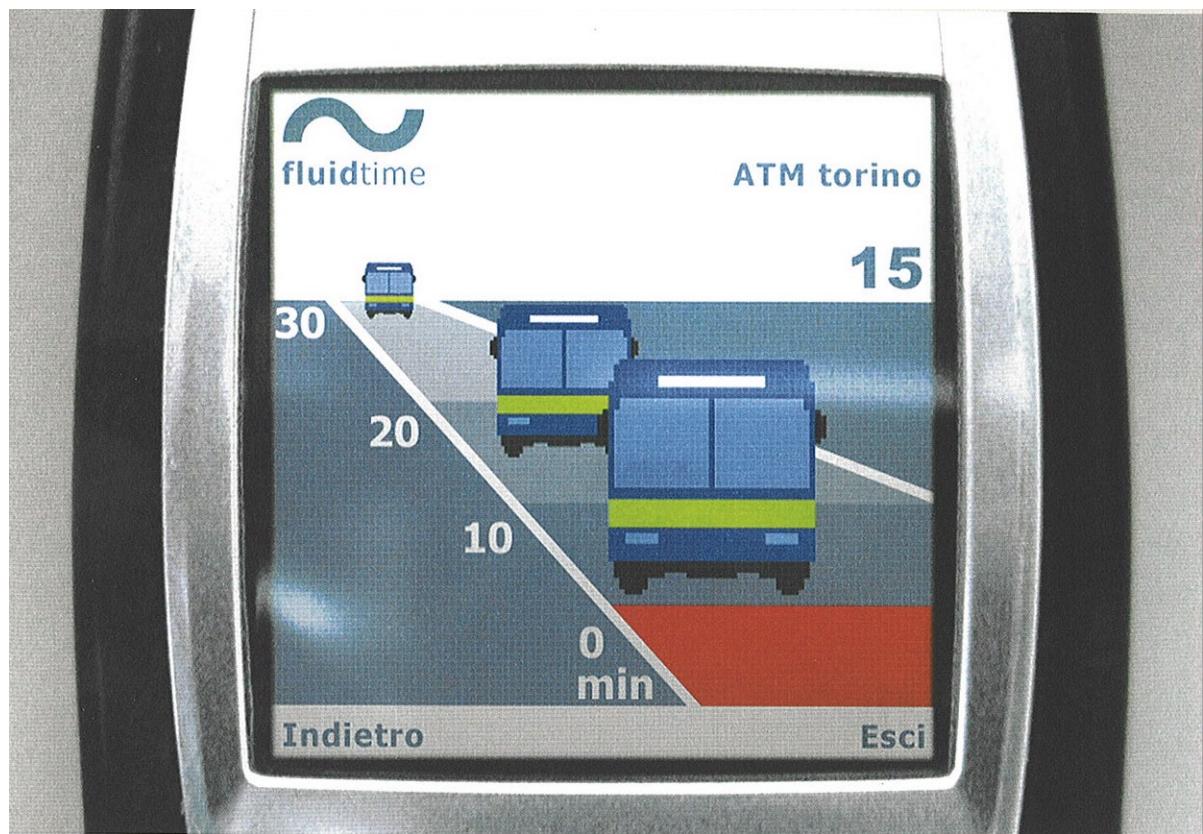
Mentre gli indumenti sono al lavaggio, strumenti mobili e fissi aggiornano costantemente gli utenti sul procedere del loro ciclo di lavaggio e un segnale intelligente li avvisa quando hanno scordato di ritirare i loro capi lavati.

Valore/potenzialità Il tempo, un valore altamente apprezzato, è acquistato, venduto e commercializzato sulle reti digitali. Dopo che il nuovo sistema torinese di informazione sul traffico è stato implementato, un rilevamento ha indicato che la gente pagherebbe volentieri per avere informazioni in tempo reale sugli arrivi di tram e autobus.

Gli strumenti e i servizi sviluppati dal progetto potrebbero permettere alle aziende e alle agenzie governative di migliorare le loro relazioni con i clienti su base temporale e di creare nuove opportunità di guadagno.

|||





Idea/problem/context In both their work and personal life people are adopting new habits regarding time: mobile phones, for instance, are increasingly used to quickly schedule or change appointments. Such technologies should allow us to live our lives according to Kairos, the Greek god of event-based, opportunistic time, rather than Chronos, the god of measured time: to do things when we feel like it rather than when the timetable says we must. Apart from the phone, however, few tools or services support this new way of life. We currently have limited access to timely information about public services or even private appointments.

What it is Fluidtime is a set of services and interfaces to connect people to personalised, time-based information about the service sought.

How it works Fluidtime's technical infrastructure provides accurate time updates directly from the real-time databases of the service organisations. Through their mobile phones or specially designed products people can, wherever they are, connect to the system and monitor timekeeping. Is the bus on time? Is the doctor running late or ahead of schedule?

Two service systems and their interfaces were prototyped to show how using Fluidtime can be

simple, effective and enjoyable. With the first, users of Turin's public transport can receive dynamic information either via their mobile phone while on the move, or by mechanical display units at home or in the office. Working prototypes were given to five people to use for a month in Turin. They can track buses as they approach any bus stop in the city.

The other service is personalised, flexible scheduling for Interaction-Ivrea students to organise their laundry facilities, a system that could support the coordinated use of any shared resource.

Value/potential Time, a highly-valued commodity, is bought, sold and traded over digital networks. After Turin's new traffic-information system had been implemented, a survey indicated that people would willingly pay for real-time arrival information.

The tools and services developed by the project would allow firms and government agencies to improve their time-based customer relationships and create new revenue opportunities.

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↗
www.interaction-ivrea.it/it/gallery/fluidtime
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